

REMEDIAL EXCAVATION REPORT
LILLI UNIT 10-12 FACILITY
COGCC SPILL TRACKING # 482024
COGCC REMEDIATION # 20978



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

September 26, 2022

Mr. Dan Peterson
Environmental Specialist
Noble Energy Inc.
2115 117th Avenue
Greeley, CO 80631

Subject: **Remedial Excavation Report**
 Lilli Unit 10-12 Facility
 Spill/Release Point ID #: 482024
 Remediation Project #: 20978
 NWSE S12 T8N R59W
 Weld County, Colorado

Dear Mr. Peterson:

Below please find a copy of the above referenced Remedial Excavation Report (Report) for the Lilli Unit 10-12 Facility (Site) in Weld County, Colorado. The text below describes the environmental assessment and associated soil and sampling conducted at the Site between March 31, 2022 (Decommissioning) and July 13, 2022 (Excavation) by Tasman, Inc. (Tasman), on behalf of Noble Energy, Inc. (Noble).

Introduction

The purpose of this document is to describe the remedial excavation, and associated sampling activities. The activities described below were performed in response to the discovery of suspected impacted material adjacent to the above ground storage tank (AST) at the Lilli Unit 10-12 Facility during decommissioning procedures and confirmed on April 19, 2022.

Facility Background

The Site is located approximately 6.19 miles northwest of the town of Raymer in Weld County, Colorado, as shown on Figure 1. The Site is surrounded by pastureland, and the legal description is the southwest quarter of the northeast quarter of Section 12, Township 8 North, Range 59 West, 6th Principal Meridian. The Site is located on terrain that slopes gradually to the southwest. The Site is approximately 3.88 miles west-southwest of the intersection of County Road 97 and County Road 127.5 and has coordinates of 40.677693°, -103.922322°. The Site location map is included as Figure 1.

Tasman was retained by Noble on March 31, 2022, to complete soil sampling and documentation during decommissioning and abandonment activities at the former Lilli Unit 10-12 Facility. During decommissioning and abandonment activities at the Site historic impacts were discovered adjacent to an AST and confirmed on April 19, 2022. A Form 19 was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on April 19, 2022. The COGCC subsequently issued Spill/Release Point ID Number 482024 for this event and the Site was decommissioned. The COGCC

issued Remediation Number 20978 for this project. The Initial Site investigation was reported in the *Supplemental Form 27* (COGCC Document # 403086346) that was submitted to the COGCC on 06/22/2022. A Site Assessment Report (COGCC Document # 403086370) was submitted to the COGCC on 06/27/2022.

Field Activities- Remedial Excavation

Remedial excavation activities were conducted on July 6, 7 and 13, 2022 to remove impacted soil in the area of the former facility location. The excavation was guided in the field using a PID and standard headspace sampling techniques. A total of six soil samples (SS01@3' through SS06@3') were collected from the final perimeter of the excavation along with six excavation floor samples (FS01@3.5', FS02@3.5', FS03@5', FS03@6', FS04@5' and FS04@6'). All soil samples were submitted to Summit for laboratory analysis of COGCC Table 915-1 list of organics in soil using USEPA Methods 8260B and 8270D, and TPH using USEPA Methods 8260B and 8015D per the approved amended soil sampling plan. No groundwater was encountered during the excavation. Soil analytical data is summarized in Table 2 and the remedial excavation extent and sample locations are illustrated on Figure 2. The laboratory analytical report is included as Attachment A.

A total of approximately 120 cubic yards of impacted material were removed for off-Site disposal at the Waste Management Landfill in Ault, Colorado under signed Noble waste manifests. A total of approximately 120 cubic yards of imported clean fill was used to backfill the excavation. The final remedial excavation extent measured approximately 30 ft. by 18 ft. by 6 ft. bgs.

Results

Laboratory analytical results for the initial remedial excavation soil samples collected on July 6 and 7, 2022 along the lateral excavation extent indicate all samples were below applicable COGCC Table 915-1 soil standards. However, the initial excavation floor samples collected on July 6 and 7, 2022 had exceedances for TPH-DRO, TPH-ORO and benzantracene at FS02@3.5', and exceedances for 1-methylnaphthalene at FS03@5' and FS04@5'. On July 13, 2022, additional soil was removed from the excavation to a depth of 6 feet bgs, and the analytical results for floor samples FS03@6' and FS04@6' were below all applicable COGCC Table 915-1 soil standards.

Conclusions and No Further Action Request

Based upon field and laboratory data collected during remedial excavation activities, impacted soil in the area of the release has been successfully removed. A No Further Action (NFA) designation is being requested from the COGCC for this project.

Remarks

The discussion and conclusions contained in this report represent the professional opinions of Tasman Geosciences, Inc. These opinions are based on currently available information and are arrived at in accordance with currently accepted geologic and engineering practices.

Please contact me at (720) 616-8383 or at jwhritenour@tasman-geo.com if you require additional information.

Sincerely,
Tasman Geosciences, Inc.



Jake Whritenour, Program Manager

Attachments:

Table 1 – Decommissioning and Site Assessment Soil Analytical Data

Table 2 – Excavation Soil Analytical Data

Figure 1 – Site Location Map

Figure 2 – Excavation Analytical Results Map (03/31/2022, 05/23/2022, 07/06/2022,
07/07/2022 & 07/13/2022)

Attachment A – Laboratory Analytical Data Report

TABLES

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - LILLI UNIT 10-12 FAC

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01@2.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	94	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST01@0.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	350	81	<0.0500	<0.0500	<0.0500 ⁴	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500 ⁴	<0.0500 ⁴
AST02@0.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	1200	330	<0.0500	<0.0500	<0.0500 ⁴	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500 ⁴	<0.0500 ⁴
AST03@0.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	2700	710	<0.0500	<0.0500	0.625	0.584	0.159	<0.0500	0.768	0.104	<0.0500	<0.0500	0.0858	0.188	<0.0500 ⁴	<0.0500 ⁴
SEP01-DL01@3'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00654	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-FL01@3'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH01@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	1800	890	0.0219	<0.00500	<0.00500	0.0161	0.121	0.0935	0.523	0.0228	<0.00500	0.0264	<0.00500	0.118	<0.00500	<0.00500
BH01@4-5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH01@18-20'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	51	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@4-5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@18-20'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00582	<0.00500	<0.00500
BH03@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH03@4-5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH03@10-12'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0175	<0.00500	<0.00500	<0.00500
BH04@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH04@4-5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH04@10-12'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH05@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH05@4-5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH05@10-12'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH06@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH06@4-5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH06@10-12'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
SS01@2.5'	03/31/22	7.43	0.786	0.278	0.0176
FS01@5'	03/31/22	7.66	0.219	0.959	0.0573
AST01@0.5'	03/31/22	7.54	0.400	0.776	0.0395
AST02@0.5'	03/31/22	7.47	0.193	0.164	0.0275
AST03@0.5'	03/31/22	7.98	0.365	0.956	0.0335
SEP01-DL01@3'	03/31/22	7.97	1.800	1.090	0.1970
SEP01-FL01@3'	03/31/22	7.91	0.292	0.293	0.0273
BH01@0.5-1.5'	05/23/22	7.88	0.503	0.978	0.0686
BH01@4-5'	05/23/22	8.75	0.980	0.500	0.1460
BH01@18-20'	05/23/22	8.42	2.450	0.968	0.1550
BH02@0.5-1.5'	05/23/22	8.13	0.312	0.535	0.0394
BH02@4-5'	05/23/22	8.38	0.311	0.424	0.0318
BH02@18-20'	05/23/22	8.95	2.870	0.408	0.1390
BH03@0.5-1.5'	05/23/22	8.54	0.284	0.407	0.0731
BH03@4-5'	05/23/22	8.50	0.350	0.438	0.0459
BH03@10-12'	05/23/22	8.83	2.640	0.410	0.2060
BH04@0.5-1.5'	05/23/22	8.24	0.461	0.506	0.0729
BH04@4-5'	05/23/22	8.69	0.848	0.428	0.0764
BH04@10-12'	05/23/22	8.53	2.720	0.770	0.2380
BH05@0.5-1.5'	05/23/22	8.13	0.324	0.513	0.0920
BH05@4-5'	05/23/22	8.57	0.436	0.420	0.0648
BH05@10-12'	05/23/22	8.78	2.610	0.435	0.1060
BH06@0.5-1.5'	05/23/22	7.70	0.552	0.515	0.0884
BH06@4-5'	05/23/22	8.51	0.530	0.513	0.0772
BH06@10-12'	05/23/22	8.62	3.040	0.612	0.2850
BG01@2'	05/23/22	8.37	NA	NA	NA
BG02@2'	05/23/22	8.71	NA	NA	NA
BG03@2'	05/23/22	8.77	NA	NA	NA
BG04@2'	05/23/22	8.57	NA	NA	NA
BG05@2'	05/23/22	8.73	NA	NA	NA

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL2		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
AST03@0.5'	3/31/2022	3.03	159	<0.224	<0.30	4.49	7.89	3.70	0.761	0.0508	16.7
BG01@3'	3/31/2022	3.30	163	<0.216	<0.30	4.89	8.15	4.17	0.840	0.0404	15.6
BH01@0.5-1.5'	05/23/22	3.63	184	<0.238	<0.30	3.84	7.23	3.54	0.829	<0.0238	5.52
BH01@4-5'	05/23/22	3.10	125	<0.225	<0.30	3.01	7.02	3.38	0.748	<0.0225	6.38
BH01@18-20'	05/23/22	3.45	102	<0.246	<0.30	4.29	9.05	4.38	0.801	<0.0246	10.2
BH02@0.5-1.5'	05/23/22	2.53	138	<0.234	<0.30	2.73	5.08	2.54	0.544	<0.0234	2.67
BH02@4-5'	05/23/22	2.67	303	<0.224	<0.30	2.23	6.04	2.43	0.659	<0.0224	2.93
BH02@18-20'	05/23/22	3.10	92.2	<0.236	<0.30	3.53	7.99	3.56	0.761	<0.0236	7.44
BH03@0.5-1.5'	05/23/22	2.81	201	<0.226	<0.30	3.08	6.26	2.81	0.646	<0.0226	3.54
BH03@4-5'	05/23/22	2.60	344	<0.227	<0.30	2.53	6.20	2.69	0.553	<0.0227	4.06
BH03@10-12'	05/23/22	3.53	166	<0.242	<0.30	5.25	8.77	5.57	0.874	0.0324	15.2
BH04@0.5-1.5'	05/23/22	2.52	186	<0.228	<0.30	3.49	7.43	3.39	0.703	<0.0228	6.12
BH04@4-5'	05/23/22	2.47	257	<0.222	<0.30	2.07	5.46	2.19	0.593	<0.0222	2.63
BH04@10-12'	05/23/22	3.45	140	<0.246	<0.30	5.48	7.84	5.76	0.858	0.0272	15.0
BH05@0.5-1.5'	05/23/22	2.06	129	<0.233	<0.30	4.05	6.85	3.62	0.710	0.0258	7.32
BH05@4-5'	05/23/22	2.83	132	<0.224	<0.30	2.63	5.95	2.87	0.706	<0.0224	5.17
BH05@10-12'	05/23/22	3.43	165	<0.244	<0.30	5.16	7.96	5.33	0.877	0.0258	14.1
BH06@0.5-1.5'	05/23/22	2.24	183	<0.238	<0.30	4.74	9.17	4.30	0.908	0.0400	11.7
BH06@4-5'	05/23/22	3.26	511	<0.229	<0.30	2.76	6.21	3.15	0.688	<0.0229	5.73
BH06@10-12'	05/23/22	3.59	124	<0.248	<0.30	5.41	8.54	5.68	0.911	0.0294	15.0
BG01@2'	05/23/22	2.59	365	NA	<0.30	NA	NA	NA	0.573	NA	NA
BG02@2'	05/23/22	2.24	183	NA	<0.30	NA	NA	NA	0.548	NA	NA
BG03@2'	05/23/22	1.99	160	NA	<0.30	NA	NA	NA	0.423	NA	NA
BG04@2'	05/23/22	2.76	154	NA	<0.30	NA	NA	NA	0.695	NA	NA
BG05@2'	05/23/22	2.16	197	NA	<0.30	NA	NA	NA	0.775	NA	NA

TABLE 2
EXCAVATION SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - LILLI UNIT 10-12 FACILITY

Soil Sample ID	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01@3'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS02@3'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	110	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS03@3'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS04@3'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	210	60	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS05@3'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS06@3'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@3.5'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	170	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS02@3.5'	07/06/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	1200	250	<0.00500	<0.00500	0.0750	0.105	0.0123	<0.00500	0.0866	<0.00500	<0.00500	<0.00500	<0.00500	0.0250	<0.00500	<0.00500
FS03@5'	07/07/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	0.0201	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0124	<0.00500	<0.00500	0.0406	<0.00500	<0.00500	0.183	<0.00500
FS03@6'	07/13/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS04@5'	07/07/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0106	<0.00500	<0.00500	0.0202	<0.00500	<0.00500	0.157	<0.00500
FS04@6'	07/13/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Notes:

- Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
TPH-ORO = Total petroleum hydrocarbons - oil range organics
mg/kg = Milligrams per kilogram
1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
< = Analytical result is less than the indicated laboratory reporting limit
Benz(a) = Benzantrhacene
Benzo(b) = Benzoofluoranthene
Benzo(k) = Benzoofluoranthene
Benzop(a) = Benzopyrene
A,H = Dibenzoanthracene
1,2,3-CD = Indenopyrene
1-M = 1-methylnaphthalene
2-M = 2-methylnaphthalene

Highlighted results are equal to or exceed the COGCC Table 915-1 standard

FIGURES

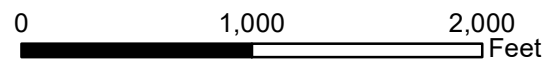
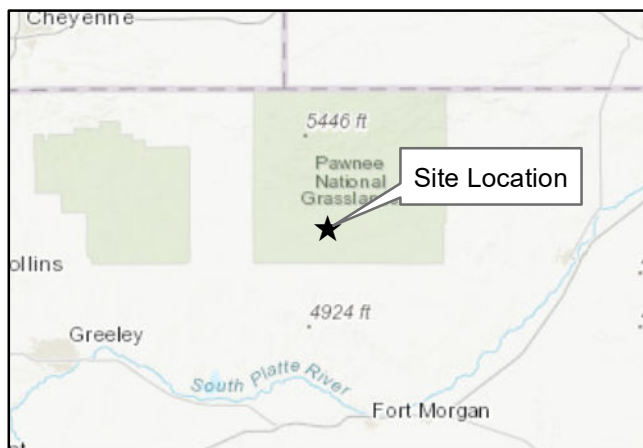
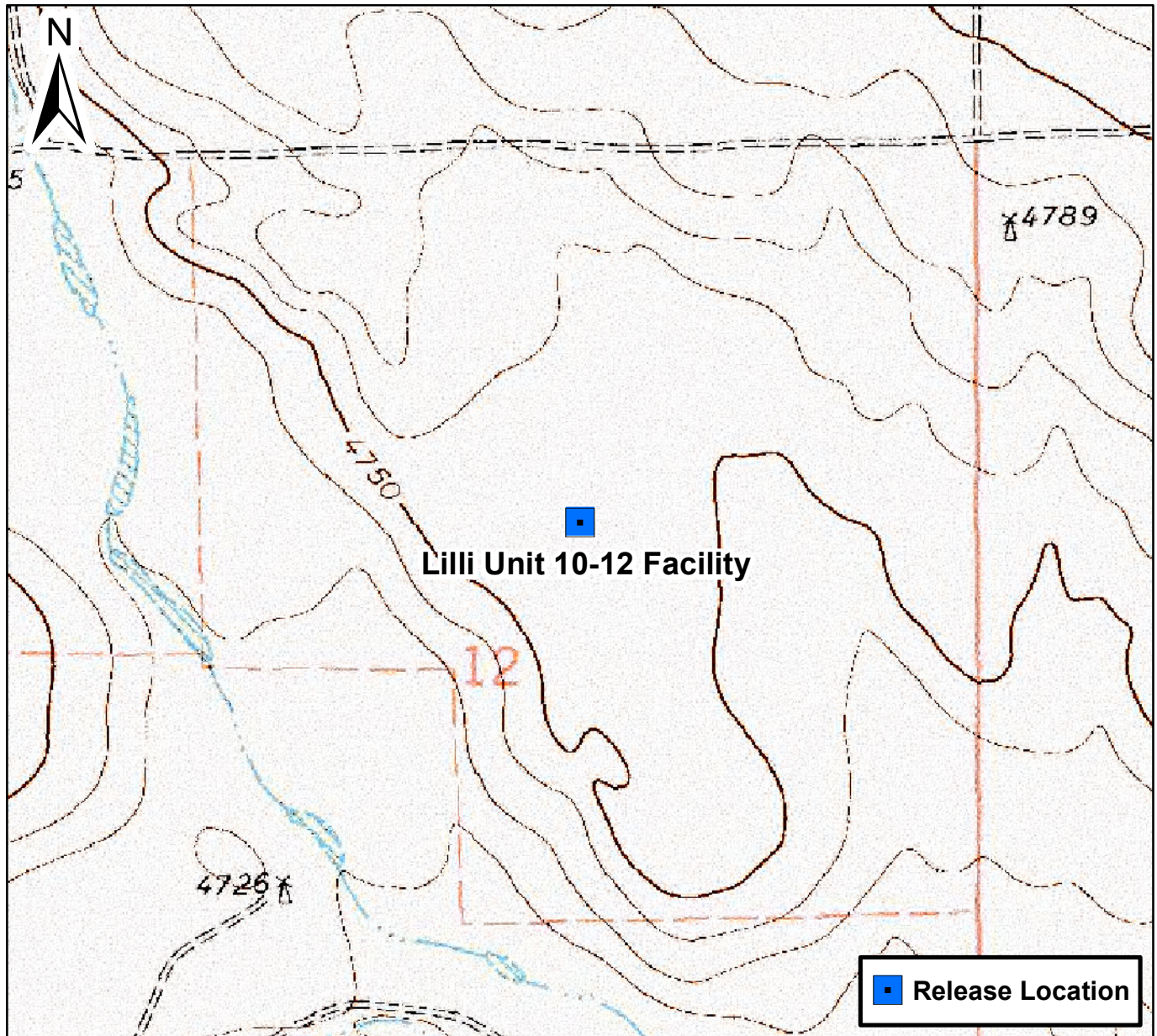
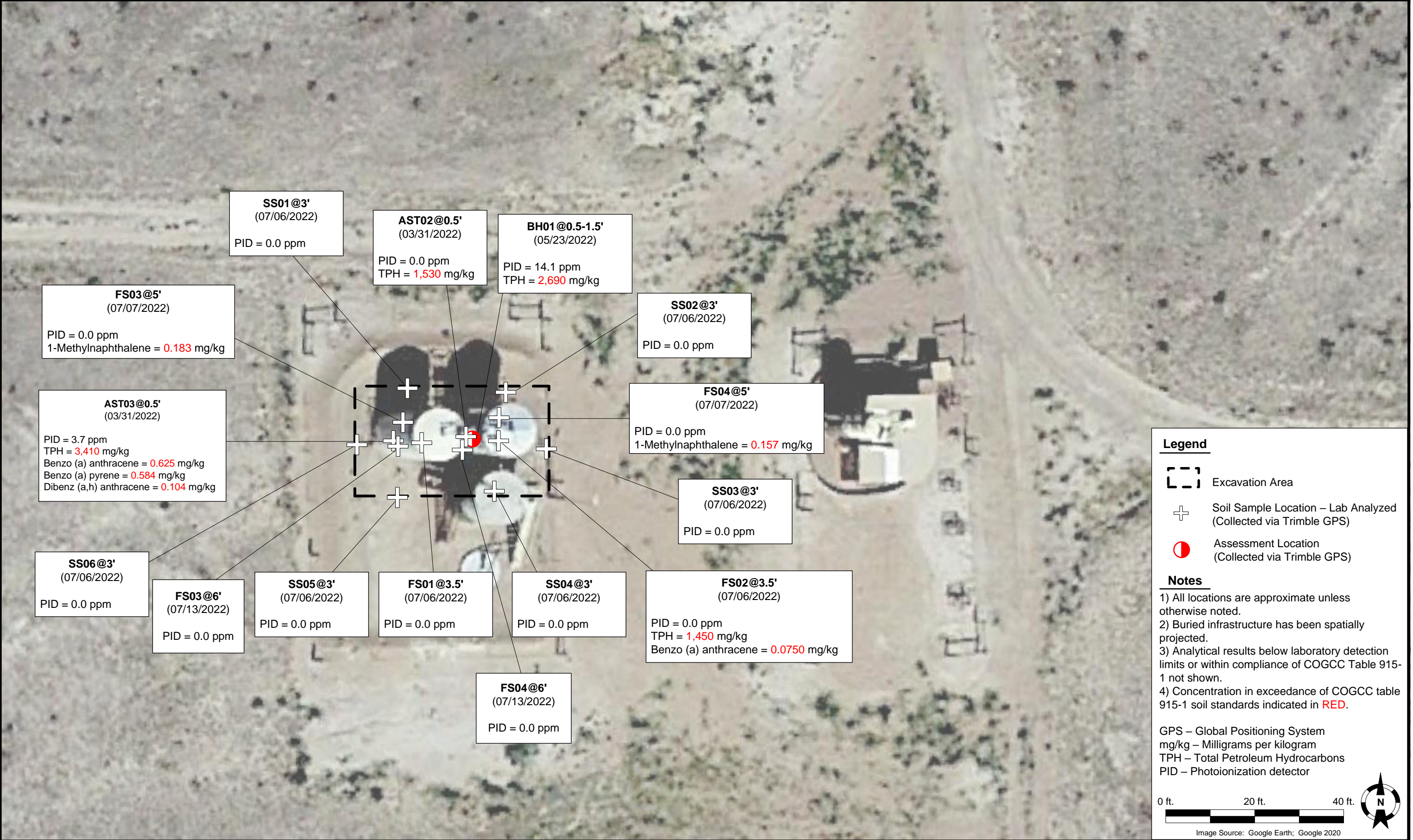


Figure 1

Site Location Map
Lilli Unit 10-12 Facility
NWSE S12 T8N R59W
Weld County, Colorado





ATTACHMENT A

LABORATORY ANALYTICAL DATA REPORT

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 11, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 10-12 (Fac)

Work Order #2207036

Enclosed are the results of analyses for samples received by Summit Scientific on 07/06/22 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@3'	2207036-01	Soil	07/06/22 10:50	07/06/22 15:00
SS02@3'	2207036-02	Soil	07/06/22 10:52	07/06/22 15:00
SS03@3'	2207036-03	Soil	07/06/22 10:54	07/06/22 15:00
SS04@3'	2207036-04	Soil	07/06/22 10:56	07/06/22 15:00
SS05@3'	2207036-05	Soil	07/06/22 10:58	07/06/22 15:00
SS06@3'	2207036-06	Soil	07/06/22 11:00	07/06/22 15:00
FS01@3.5'	2207036-07	Soil	07/06/22 11:07	07/06/22 15:00
FS02@3.5'	2207036-08	Soil	07/06/22 11:40	07/06/22 15:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

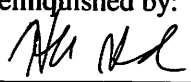

2207036

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Noble / Tasman Geosciences Project Manager: Jake Whritenour, Invoice: Wade Firestien
Address: 6855 W. 119th Ave. E-Mail: jwhritenour@tasman-geo.com/ Noble Group
City/State/Zip: Broomfield / CO/ 80020
Phone: 303-827-1511 Project Name: Lill: Unit 10-12 FAC
Sampler Name: Hunter Merlo Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS			
1	SS01 @ 3'	7/6/27	1050	2			X			X				X	X	X					pH, EC, SAR by saturated paste
2	SS02 @ 3'		1052	1																	
3	SS03 @ 3'		1054	1																	
4	SS04 @ 3'		1056	1																	
5	SS05 @ 3'		1058	1																	
6	SS06 @ 3'		1100	1																	
7	FS01 @ 3.5'		1107	1																	
8	FS02 @ 3.5'	✓	1104	✓			✓			✓				✓	✓	✓					
9																					
10																					

Relinquished by: 	Date/Time: 7/6/27 1345	Received by: Summit	Date/Time: 7/6/27 1345	Turn Around Time (Check) <input checked="" type="checkbox"/> Same Day 72 hours <input type="checkbox"/> 24 hours Standard <input type="checkbox"/> 48 hours Sample Integrity: Temperature Upon Receipt: <u>5.9</u> Samples Intact: <input checked="" type="radio"/> Yes No	Notes:
Relinquished by: Summit	Date/Time: 7/6/22 1500	Received by: 	Date/Time: 7/6/22 1500		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

2207036

Sample Receipt Checklist

S2 Work Order#

Client: Noble/TrasmanClient Project ID: Lilli unit 10-12 FAEShipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

	-			
--	---	--	--	--

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

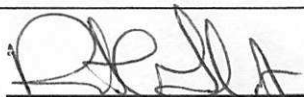
Other

☐

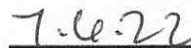
Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sameday
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Additional Comments (if any):</u>				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name



Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS01@3'
2207036-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		66.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS01@3'
2207036-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		84.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		89.5 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS02@3'
2207036-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	110	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		67.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS02@3'
2207036-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		41.3 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

07/11/22 09:11

SS03@3'
2207036-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		62.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS03@3'
2207036-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 10:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		66.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		95.4 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS04@3'
2207036-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	210	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	60	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		64.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS04@3'
2207036-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		47.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		42.5 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS05@3'
2207036-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		64.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS05@3'
2207036-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		60.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.1 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS06@3'
2207036-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		66.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

SS06@3'
2207036-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.2 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

07/11/22 09:11

FS01@3.5'
2207036-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	170	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		63.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

FS01@3.5'
2207036-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		52.4 %	40-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

FS02@3.5'
2207036-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	1200	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	250	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		71.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

FS02@3.5'
2207036-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFG0103	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0750	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.105	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0123	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0886	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.0250	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		49.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.2 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0098 - EPA 5030 Soil MS

Blank (BFG0098-BLK1)

Prepared: 07/06/22 Analyzed: 07/07/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0369		"	0.0400		92.2	50-150			
Surrogate: Toluene-d8	0.0327		"	0.0400		81.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5	50-150			

LCS (BFG0098-BS1)

Prepared: 07/06/22 Analyzed: 07/07/22

Benzene	0.115	0.0020	mg/kg	0.100		115	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.204	0.010	"	0.200		102	70-130			
o-Xylene	0.0943	0.0050	"	0.100		94.3	70-130			
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100		106	70-130			
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
Naphthalene	0.105	0.0038	"	0.100		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		99.1	50-150			
Surrogate: Toluene-d8	0.0334		"	0.0400		83.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	50-150			

Matrix Spike (BFG0098-MS1)

Source: 2207032-01

Prepared: 07/06/22 Analyzed: 07/07/22

Benzene	0.0909	0.0020	mg/kg	0.100	ND	90.9	70-130			
Toluene	0.0935	0.0050	"	0.100	ND	93.5	70-130			
Ethylbenzene	0.100	0.0050	"	0.100	ND	100	70-130			
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.0934	0.0050	"	0.100	ND	93.4	70-130			
1,2,4-Trimethylbenzene	0.0976	0.0050	"	0.100	ND	97.6	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
Naphthalene	0.103	0.0038	"	0.100	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0369		"	0.0400		92.2	50-150			
Surrogate: Toluene-d8	0.0346		"	0.0400		86.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	50-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0098 - EPA 5030 Soil MS

Matrix Spike Dup (BFG0098-MSD1)	Source: 2207032-01			Prepared: 07/06/22 Analyzed: 07/07/22						
Benzene	0.0897	0.0020	mg/kg	0.100	ND	89.7	70-130	1.30	30	
Toluene	0.0939	0.0050	"	0.100	ND	93.9	70-130	0.448	30	
Ethylbenzene	0.0977	0.0050	"	0.100	ND	97.7	70-130	2.46	30	
m,p-Xylene	0.209	0.010	"	0.200	ND	104	70-130	0.616	30	
o-Xylene	0.0923	0.0050	"	0.100	ND	92.3	70-130	1.10	30	
1,2,4-Trimethylbenzene	0.0958	0.0050	"	0.100	ND	95.8	70-130	1.92	30	
1,3,5-Trimethylbenzene	0.0944	0.0050	"	0.100	ND	94.4	70-130	6.49	30	
Naphthalene	0.102	0.0038	"	0.100	ND	102	70-130	0.876	30	
Surrogate: 1,2-Dichloroethane-d4	0.0347		"	0.0400		86.8	50-150			
Surrogate: Toluene-d8	0.0331		"	0.0400		82.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.3	50-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0099 - EPA 3550A

Blank (BFG0099-BLK1)

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFG0099-BS1)

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	539	50	mg/kg	500	108	70-130
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Matrix Spike (BFG0099-MS1)

Source: 2207032-01

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	487	50	mg/kg	500	16.1	94.2	70-130
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Matrix Spike Dup (BFG0099-MSD1)

Source: 2207032-01

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	501	50	mg/kg	500	16.1	97.0	70-130	2.84	20
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0103 - EPA 5030 Soil MS

Blank (BFG0103-BLK1)

Prepared & Analyzed: 07/07/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0400		"	0.0333		120	40-150			
Surrogate: Fluoranthene-d10	0.0372		"	0.0333		111	40-150			

LCS (BFG0103-BS1)

Prepared & Analyzed: 07/07/22

Acenaphthene	0.0314	0.00500	mg/kg	0.0333	94.3	31-137
Anthracene	0.0373	0.00500	"	0.0333	112	30-120
Benzo (a) anthracene	0.0342	0.00500	"	0.0333	103	30-120
Benzo (a) pyrene	0.0359	0.00500	"	0.0333	108	30-120
Benzo (b) fluoranthene	0.0347	0.00500	"	0.0333	104	30-120
Benzo (k) fluoranthene	0.0376	0.00500	"	0.0333	113	30-120
Chrysene	0.0390	0.00500	"	0.0333	117	30-120
Dibenz (a,h) anthracene	0.0336	0.00500	"	0.0333	101	30-120
Fluoranthene	0.0378	0.00500	"	0.0333	113	30-120
Fluorene	0.0340	0.00500	"	0.0333	102	30-120
Indeno (1,2,3-cd) pyrene	0.0282	0.00500	"	0.0333	84.7	30-120
Pyrene	0.0395	0.00500	"	0.0333	118	35-142
1-Methylnaphthalene	0.0403	0.00500	"	0.0333	121	35-142
2-Methylnaphthalene	0.0305	0.00500	"	0.0333	91.4	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0355		"	0.0333	106	40-150
Surrogate: Fluoranthene-d10	0.0407		"	0.0333	122	40-150

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0103 - EPA 5030 Soil MS

Matrix Spike (BFG0103-MS1)

Source: 2207033-01

Prepared: 07/07/22 Analyzed: 07/08/22

Acenaphthene	0.0103	0.00500	mg/kg	0.0333	ND	31.0	31-137		
Anthracene	0.0132	0.00500	"	0.0333	ND	39.6	30-120		
Benzo (a) anthracene	0.0164	0.00500	"	0.0333	ND	49.3	30-120		
Benzo (a) pyrene	0.0162	0.00500	"	0.0333	ND	48.6	30-120		
Benzo (b) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.2	30-120		
Benzo (k) fluoranthene	0.0181	0.00500	"	0.0333	ND	54.4	30-120		
Chrysene	0.0175	0.00500	"	0.0333	ND	52.6	30-120		
Dibenz (a,h) anthracene	0.0134	0.00500	"	0.0333	ND	40.1	30-120		
Fluoranthene	0.0120	0.00500	"	0.0333	ND	36.1	30-120		
Fluorene	0.0133	0.00500	"	0.0333	ND	39.8	30-120		
Indeno (1,2,3-cd) pyrene	0.0231	0.00500	"	0.0333	ND	69.4	30-120		
Pyrene	0.0184	0.00500	"	0.0333	ND	55.2	35-142		
1-Methylnaphthalene	0.0112	0.00500	"	0.0333	ND	33.5	15-130		
2-Methylnaphthalene	0.0117	0.00500	"	0.0333	ND	35.1	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0147		"	0.0333		44.2	40-150		
Surrogate: Fluoranthene-d10	0.0149		"	0.0333		44.8	40-150		

Matrix Spike Dup (BFG0103-MSD1)

Source: 2207033-01

Prepared: 07/07/22 Analyzed: 07/08/22

Acenaphthene	0.0114	0.00500	mg/kg	0.0333	ND	34.1	31-137	9.53	30
Anthracene	0.0155	0.00500	"	0.0333	ND	46.6	30-120	16.3	30
Benzo (a) anthracene	0.0188	0.00500	"	0.0333	ND	56.4	30-120	13.5	30
Benzo (a) pyrene	0.0180	0.00500	"	0.0333	ND	54.1	30-120	10.7	30
Benzo (b) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	14.6	30
Benzo (k) fluoranthene	0.0206	0.00500	"	0.0333	ND	61.7	30-120	12.7	30
Chrysene	0.0193	0.00500	"	0.0333	ND	58.0	30-120	9.77	30
Dibenz (a,h) anthracene	0.0153	0.00500	"	0.0333	ND	46.0	30-120	13.7	30
Fluoranthene	0.0139	0.00500	"	0.0333	ND	41.7	30-120	14.4	30
Fluorene	0.0145	0.00500	"	0.0333	ND	43.4	30-120	8.66	30
Indeno (1,2,3-cd) pyrene	0.0192	0.00500	"	0.0333	ND	57.5	30-120	18.7	30
Pyrene	0.0212	0.00500	"	0.0333	ND	63.7	35-142	14.2	30
1-Methylnaphthalene	0.0137	0.00500	"	0.0333	ND	41.1	15-130	20.3	50
2-Methylnaphthalene	0.0122	0.00500	"	0.0333	ND	36.6	15-130	4.19	50
Surrogate: 2-Methylnaphthalene-d10	0.0165		"	0.0333		49.6	40-150		
Surrogate: Fluoranthene-d10	0.0162		"	0.0333		48.5	40-150		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 09:11

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 11, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 10-12 (Fac)

Work Order #2207053

Enclosed are the results of analyses for samples received by Summit Scientific on 07/07/22 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS03@5'	2207053-01	Soil	07/07/22 12:55	07/07/22 15:00
FS04@5'	2207053-02	Soil	07/07/22 13:00	07/07/22 15:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

S_2

2207053

303-277-9310

Page 1 of 1

Project Manager: Jake Whritenour, Invoice: Wade Firestorm

E-Mail: jwhritenour@tasman-geo.com/ Noble Group

Project Name: Cilli Unit 10-1a FAC

Project Number:

Project Number:

www.s2scientific.com

S₂

Sample Receipt Checklist

S2 Work Order# 2207053Client: Noble-Tasman Client Project ID: Lilli Unit 10-12 FAcShipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #:

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 6.8 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			
Were all samples received intact ⁽¹⁾ ?	-			ON ICE
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?	-			Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name

7722

Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

FS03@5'
2207053-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/07/22 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BFG0123	07/07/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/07/22 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/07/22 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0124	07/07/22	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/07/22 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		60.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

FS03@5'
2207053-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/07/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0201	0.00500	mg/kg	1	BFG0129	07/08/22	07/09/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0124	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.0406	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.183	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/07/22 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		72.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		130 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

07/11/22 16:26

FS04@5'
2207053-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/07/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0123	07/07/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/07/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/07/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0124	07/07/22	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/07/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		64.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

FS04@5'
2207053-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/07/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFG0129	07/08/22	07/09/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0106	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.0202	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.157	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/07/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		81.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		110 %	40-150		"	"	"	"	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0123 - EPA 5030 Soil MS

Blank (BFG0123-BLK1)

Prepared: 07/07/22 Analyzed: 07/08/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0443		"	0.0400		111	50-150			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0433		"	0.0400		108	50-150			

LCS (BFG0123-BS1)

Prepared: 07/07/22 Analyzed: 07/08/22

Benzene	0.107	0.0020	mg/kg	0.100		107	70-130			
Toluene	0.129	0.0050	"	0.100		129	70-130			
Ethylbenzene	0.117	0.0050	"	0.100		117	70-130			
m,p-Xylene	0.208	0.010	"	0.200		104	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.108	0.0050	"	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100		108	70-130			
Naphthalene	0.104	0.0038	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0433		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		105	50-150			

Matrix Spike (BFG0123-MS1)

Source: 2207050-01

Prepared: 07/07/22 Analyzed: 07/08/22

Benzene	0.103	0.0020	mg/kg	0.100	ND	103	70-130			
Toluene	0.0902	0.0050	"	0.100	ND	90.2	70-130			
Ethylbenzene	0.0826	0.0050	"	0.100	ND	82.6	70-130			
m,p-Xylene	0.144	0.010	"	0.200	ND	72.1	70-130			
o-Xylene	0.0695	0.0050	"	0.100	ND	69.5	70-130			QM-07
1,2,4-Trimethylbenzene	0.0642	0.0050	"	0.100	ND	64.2	70-130			QM-07
1,3,5-Trimethylbenzene	0.0625	0.0050	"	0.100	ND	62.5	70-130			QM-07
Naphthalene	0.0813	0.0038	"	0.100	ND	81.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0450		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0434		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0421		"	0.0400		105	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

07/11/22 16:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0123 - EPA 5030 Soil MS

Matrix Spike Dup (BFG0123-MSD1)	Source: 2207050-01			Prepared: 07/07/22 Analyzed: 07/08/22						
Benzene	0.0955	0.0020	mg/kg	0.100	ND	95.5	70-130	7.47	30	
Toluene	0.0814	0.0050	"	0.100	ND	81.4	70-130	10.2	30	
Ethylbenzene	0.0738	0.0050	"	0.100	ND	73.8	70-130	11.2	30	
m,p-Xylene	0.130	0.010	"	0.200	ND	64.9	70-130	10.6	30	QM-07
o-Xylene	0.0622	0.0050	"	0.100	ND	62.2	70-130	11.1	30	QM-07
1,2,4-Trimethylbenzene	0.0488	0.0050	"	0.100	ND	48.8	70-130	27.3	30	QM-07
1,3,5-Trimethylbenzene	0.0477	0.0050	"	0.100	ND	47.7	70-130	26.9	30	QM-07
Naphthalene	0.0650	0.0038	"	0.100	ND	65.0	70-130	22.4	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0448		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0426		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0124 - EPA 3550A

Blank (BFG0124-BLK1)

Prepared: 07/07/22 Analyzed: 07/08/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFG0124-BS1)

Prepared: 07/07/22 Analyzed: 07/08/22

C10-C28 (DRO)	621	50	mg/kg	500	124	70-130
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Matrix Spike (BFG0124-MS1)

Source: 2207053-01

Prepared: 07/07/22 Analyzed: 07/08/22

C10-C28 (DRO)	589	50	mg/kg	500	ND	118	70-130
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Matrix Spike Dup (BFG0124-MSD1)

Source: 2207053-01

Prepared: 07/07/22 Analyzed: 07/08/22

C10-C28 (DRO)	652	50	mg/kg	500	ND	130	70-130	10.2	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0129 - EPA 5030 Soil MS

Blank (BFG0129-BLK1)

Prepared & Analyzed: 07/08/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0473		"	0.0333		142	40-150			
Surrogate: Fluoranthene-d10	0.0433		"	0.0333		130	40-150			

LCS (BFG0129-BS1)

Prepared & Analyzed: 07/08/22

Acenaphthene	0.0318	0.00500	mg/kg	0.0333	95.3	31-137
Anthracene	0.0352	0.00500	"	0.0333	106	30-120
Benzo (a) anthracene	0.0347	0.00500	"	0.0333	104	30-120
Benzo (a) pyrene	0.0365	0.00500	"	0.0333	109	30-120
Benzo (b) fluoranthene	0.0371	0.00500	"	0.0333	111	30-120
Benzo (k) fluoranthene	0.0400	0.00500	"	0.0333	120	30-120
Chrysene	0.0379	0.00500	"	0.0333	114	30-120
Dibenz (a,h) anthracene	0.0367	0.00500	"	0.0333	110	30-120
Fluoranthene	0.0393	0.00500	"	0.0333	118	30-120
Fluorene	0.0304	0.00500	"	0.0333	91.1	30-120
Indeno (1,2,3-cd) pyrene	0.0332	0.00500	"	0.0333	99.7	30-120
Pyrene	0.0364	0.00500	"	0.0333	109	35-142
1-Methylnaphthalene	0.0389	0.00500	"	0.0333	117	35-142
2-Methylnaphthalene	0.0348	0.00500	"	0.0333	105	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0364		"	0.0333	109	40-150
Surrogate: Fluoranthene-d10	0.0409		"	0.0333	123	40-150

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC		RPD		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0129 - EPA 5030 Soil MS

Matrix Spike (BFG0129-MS1)			Source: 2207052-01		Prepared & Analyzed: 07/08/22						
Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.8	31-137				
Anthracene	0.0234	0.00500	"	0.0333	ND	70.1	30-120				
Benzo (a) anthracene	0.0337	0.00500	"	0.0333	ND	101	30-120				
Benzo (a) pyrene	0.0201	0.00500	"	0.0333	ND	60.2	30-120				
Benzo (b) fluoranthene	0.0239	0.00500	"	0.0333	ND	71.6	30-120				
Benzo (k) fluoranthene	0.0267	0.00500	"	0.0333	ND	80.0	30-120				
Chrysene	0.0370	0.00500	"	0.0333	ND	111	30-120				
Dibenz (a,h) anthracene	0.0267	0.00500	"	0.0333	ND	80.0	30-120				
Fluoranthene	0.0385	0.00500	"	0.0333	ND	116	30-120				
Fluorene	0.0178	0.00500	"	0.0333	0.0335	NR	30-120				QR-02
Indeno (1,2,3-cd) pyrene	0.0185	0.00500	"	0.0333	ND	55.4	30-120				
Pyrene	0.0363	0.00500	"	0.0333	ND	109	35-142				
1-Methylnaphthalene	0.0270	0.00500	"	0.0333	0.134	NR	15-130				QR-02
2-Methylnaphthalene	0.0253	0.00500	"	0.0333	ND	76.0	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0243		"	0.0333		73.0	40-150				
Surrogate: Fluoranthene-d10	0.0169		"	0.0333		50.6	40-150				

Matrix Spike Dup (BFG0129-MSD1)			Source: 2207052-01		Prepared & Analyzed: 07/08/22						
Acenaphthene	0.0221	0.00500	mg/kg	0.0333	ND	66.2	31-137	10.2	30		
Anthracene	0.0314	0.00500	"	0.0333	ND	94.2	30-120	29.3	30		
Benzo (a) anthracene	0.0241	0.00500	"	0.0333	ND	72.2	30-120	33.4	30		QR-02
Benzo (a) pyrene	0.0236	0.00500	"	0.0333	ND	70.7	30-120	16.0	30		
Benzo (b) fluoranthene	0.0257	0.00500	"	0.0333	ND	77.0	30-120	7.22	30		
Benzo (k) fluoranthene	0.0317	0.00500	"	0.0333	ND	95.1	30-120	17.3	30		
Chrysene	0.0313	0.00500	"	0.0333	ND	93.8	30-120	16.8	30		
Dibenz (a,h) anthracene	0.0305	0.00500	"	0.0333	ND	91.6	30-120	13.5	30		
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.5	30-120	71.8	30		QR-02
Fluorene	0.0198	0.00500	"	0.0333	0.0335	NR	30-120	10.4	30		QR-02
Indeno (1,2,3-cd) pyrene	0.0267	0.00500	"	0.0333	ND	80.0	30-120	36.5	30		QR-02
Pyrene	0.0299	0.00500	"	0.0333	ND	89.7	35-142	19.3	30		
1-Methylnaphthalene	0.0349	0.00500	"	0.0333	0.134	NR	15-130	25.6	50		QR-02
2-Methylnaphthalene	0.0288	0.00500	"	0.0333	ND	86.3	15-130	12.7	50		
Surrogate: 2-Methylnaphthalene-d10	0.0312		"	0.0333		93.5	40-150				
Surrogate: Fluoranthene-d10	0.0185		"	0.0333		55.4	40-150				

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/11/22 16:26

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 18, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 10-12 (Fac)

Work Order #2207180

Enclosed are the results of analyses for samples received by Summit Scientific on 07/13/22 17:19. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS03@6'	2207180-01	Soil	07/13/22 12:06	07/13/22 17:19
FS04@6'	2207180-02	Soil	07/13/22 12:11	07/13/22 17:19

Summit Scientific

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Summit Scientific
S₂

303-277-9310

Page 1 of 1

E-Mail: jwhritenour@tasman-geo.com

Project Name: Lilli Unit 10-12

Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions		
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other _____	Water	Soil	Air-Canister #	Other _____	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD					pH, EC, SAR by saturated paste
1	F303 @ 6'	7/13/22	12:06	3			X			X			X	X	X								
2	F304 @ 6'	7/13/22	12:11	↓			X			X			X	X	X								
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by: [Signature] Date/Time: 7/13/22 15:20
 Received by: Tasman's Lock Box Date/Time: 7/13/22 15:20
 Turn Around Time (Check)
 Same Day X 72 hours ____
 24 hours __ Standard __
 48 hours __
 Sample Integrity:
 Temperature Upon Receipt: 6.6
 Samples Intact: Yes No

Notes:

S₂

2207180

Sample Receipt Checklist

S2 Work Order#

Client: Noble Tasman Client Project ID: Lilli unit 10-12

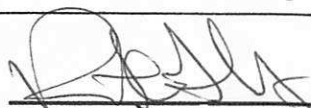
Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 6.6Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ice
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?	-			Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

 Custodian Printed Name

71322
 Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

07/18/22 09:33

FS03@6'
2207180-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/13/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0228	07/13/22	07/13/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/13/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/13/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0229	07/13/22	07/13/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/13/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		66.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

FS03@6'
2207180-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/13/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFG0233	07/14/22	07/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/13/22 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		89.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		99.6 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

FS04@6'
2207180-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/13/22 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFG0228	07/13/22	07/13/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/13/22 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/13/22 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0229	07/13/22	07/13/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/13/22 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		64.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

07/18/22 09:33

FS04@6'
2207180-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFG0233	07/14/22	07/15/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/13/22 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		82.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		94.8 %	40-150		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0228 - EPA 5030 Soil MS

Blank (BFG0228-BLK1)

Prepared: 07/13/22 Analyzed: 07/14/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0427		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0417		"	0.0400		104	50-150			

LCS (BFG0228-BS1)

Prepared: 07/13/22 Analyzed: 07/14/22

Benzene	0.136	0.0020	mg/kg	0.150		90.7	70-130			
Toluene	0.154	0.0050	"	0.150		103	70-130			
Ethylbenzene	0.150	0.0050	"	0.150		99.9	70-130			
m,p-Xylene	0.298	0.010	"	0.300		99.3	70-130			
o-Xylene	0.139	0.0050	"	0.150		92.7	70-130			
1,2,4-Trimethylbenzene	0.155	0.0050	"	0.150		103	70-130			
1,3,5-Trimethylbenzene	0.162	0.0050	"	0.150		108	70-130			
Naphthalene	0.142	0.0038	"	0.150		94.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

Matrix Spike (BFG0228-MS1)

Source: 2207178-01

Prepared: 07/13/22 Analyzed: 07/14/22

Benzene	0.133	0.0020	mg/kg	0.150	ND	88.7	70-130			
Toluene	0.145	0.0050	"	0.150	ND	96.7	70-130			
Ethylbenzene	0.142	0.0050	"	0.150	ND	94.4	70-130			
m,p-Xylene	0.295	0.010	"	0.300	ND	98.2	70-130			
o-Xylene	0.138	0.0050	"	0.150	ND	92.0	70-130			
1,2,4-Trimethylbenzene	0.143	0.0050	"	0.150	ND	95.6	70-130			
1,3,5-Trimethylbenzene	0.140	0.0050	"	0.150	ND	93.1	70-130			
Naphthalene	0.128	0.0038	"	0.150	0.00135	84.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0228 - EPA 5030 Soil MS

Matrix Spike Dup (BFG0228-MSD1)	Source: 2207178-01			Prepared: 07/13/22 Analyzed: 07/14/22						
Benzene	0.137	0.0020	mg/kg	0.150	ND	91.3	70-130	2.91	30	
Toluene	0.143	0.0050	"	0.150	ND	95.6	70-130	1.12	30	
Ethylbenzene	0.141	0.0050	"	0.150	ND	93.8	70-130	0.638	30	
m,p-Xylene	0.292	0.010	"	0.300	ND	97.4	70-130	0.829	30	
o-Xylene	0.139	0.0050	"	0.150	ND	92.4	70-130	0.434	30	
1,2,4-Trimethylbenzene	0.142	0.0050	"	0.150	ND	94.4	70-130	1.20	30	
1,3,5-Trimethylbenzene	0.141	0.0050	"	0.150	ND	94.0	70-130	1.00	30	
Naphthalene	0.129	0.0038	"	0.150	0.00135	85.1	70-130	0.840	30	
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0229 - EPA 3550A

Blank (BFG0229-BLK1)

Prepared & Analyzed: 07/13/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFG0229-BS1)

Prepared & Analyzed: 07/13/22

C10-C28 (DRO)	560	50	mg/kg	500	112	70-130
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Matrix Spike (BFG0229-MS1)

Source: 2207178-01

Prepared & Analyzed: 07/13/22

C10-C28 (DRO)	513	50	mg/kg	500	31.0	96.5	70-130
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Matrix Spike Dup (BFG0229-MSD1)

Source: 2207178-01

Prepared: 07/13/22 Analyzed: 07/14/22

C10-C28 (DRO)	495	50	mg/kg	500	31.0	92.8	70-130	3.68	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0233 - EPA 5030 Soil MS

Blank (BFG0233-BLK1)

Prepared: 07/14/22 Analyzed: 07/15/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0243		"	0.0333		73.0	40-150			
Surrogate: Fluoranthene-d10	0.0284		"	0.0333		85.2	40-150			

LCS (BFG0233-BS1)

Prepared: 07/14/22 Analyzed: 07/15/22

Acenaphthene	0.0198	0.00500	mg/kg	0.0333		59.3	31-137			
Anthracene	0.0256	0.00500	"	0.0333		76.8	30-120			
Benzo (a) anthracene	0.0226	0.00500	"	0.0333		67.8	30-120			
Benzo (a) pyrene	0.0234	0.00500	"	0.0333		70.1	30-120			
Benzo (b) fluoranthene	0.0276	0.00500	"	0.0333		82.9	30-120			
Benzo (k) fluoranthene	0.0350	0.00500	"	0.0333		105	30-120			
Chrysene	0.0257	0.00500	"	0.0333		77.0	30-120			
Dibenz (a,h) anthracene	0.0142	0.00500	"	0.0333		42.7	30-120			
Fluoranthene	0.0247	0.00500	"	0.0333		74.2	30-120			
Fluorene	0.0203	0.00500	"	0.0333		60.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0147	0.00500	"	0.0333		44.1	30-120			
Pyrene	0.0295	0.00500	"	0.0333		88.6	35-142			
1-Methylnaphthalene	0.0227	0.00500	"	0.0333		68.2	35-142			
2-Methylnaphthalene	0.0192	0.00500	"	0.0333		57.7	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0206		"	0.0333		61.8	40-150			
Surrogate: Fluoranthene-d10	0.0219		"	0.0333		65.6	40-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

Batch BFG0233 - EPA 5030 Soil MS

Matrix Spike (BFG0233-MS1)

Source: 2207154-01

Prepared: 07/14/22 Analyzed: 07/15/22

Acenaphthene	0.0240	0.00500	mg/kg	0.0333	ND	71.9	31-137				
Anthracene	0.0355	0.00500	"	0.0333	ND	107	30-120				
Benzo (a) anthracene	0.0293	0.00500	"	0.0333	ND	87.8	30-120				
Benzo (a) pyrene	0.0305	0.00500	"	0.0333	ND	91.5	30-120				
Benzo (b) fluoranthene	0.0356	0.00500	"	0.0333	ND	107	30-120				
Benzo (k) fluoranthene	0.0377	0.00500	"	0.0333	ND	113	30-120				
Chrysene	0.0323	0.00500	"	0.0333	ND	97.0	30-120				
Dibenz (a,h) anthracene	0.0177	0.00500	"	0.0333	ND	53.2	30-120				
Fluoranthene	0.0343	0.00500	"	0.0333	ND	103	30-120				
Fluorene	0.0232	0.00500	"	0.0333	ND	69.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0151	0.00500	"	0.0333	ND	45.3	30-120				
Pyrene	0.0338	0.00500	"	0.0333	ND	102	35-142				
1-Methylnaphthalene	0.0304	0.00500	"	0.0333	ND	91.2	15-130				
2-Methylnaphthalene	0.0271	0.00500	"	0.0333	ND	81.4	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0267		"	0.0333		80.2	40-150				
Surrogate: Fluoranthene-d10	0.0307		"	0.0333		92.2	40-150				

Matrix Spike Dup (BFG0233-MSD1)

Source: 2207154-01

Prepared: 07/14/22 Analyzed: 07/15/22

Acenaphthene	0.0167	0.00500	mg/kg	0.0333	ND	50.1	31-137	35.8	30	QR-02
Anthracene	0.0135	0.00500	"	0.0333	ND	40.4	30-120	90.0	30	QR-02
Benzo (a) anthracene	0.0115	0.00500	"	0.0333	ND	34.6	30-120	86.8	30	QR-02
Benzo (a) pyrene	0.0121	0.00500	"	0.0333	ND	36.3	30-120	86.5	30	QR-02
Benzo (b) fluoranthene	0.0138	0.00500	"	0.0333	ND	41.4	30-120	88.2	30	QR-02
Benzo (k) fluoranthene	0.0171	0.00500	"	0.0333	ND	51.3	30-120	75.0	30	QR-02
Chrysene	0.0132	0.00500	"	0.0333	ND	39.5	30-120	84.3	30	QR-02
Dibenz (a,h) anthracene	0.0138	0.00500	"	0.0333	ND	41.4	30-120	24.8	30	
Fluoranthene	0.0123	0.00500	"	0.0333	ND	37.0	30-120	94.1	30	QR-02
Fluorene	0.0160	0.00500	"	0.0333	ND	48.1	30-120	36.5	30	QR-02
Indeno (1,2,3-cd) pyrene	0.0193	0.00500	"	0.0333	ND	57.8	30-120	24.4	30	
Pyrene	0.0147	0.00500	"	0.0333	ND	44.2	35-142	78.6	30	QR-02
1-Methylnaphthalene	0.0171	0.00500	"	0.0333	ND	51.4	15-130	55.9	50	QR-02
2-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.8	15-130	27.3	50	
Surrogate: 2-Methylnaphthalene-d10	0.0188		"	0.0333		56.3	40-150			
Surrogate: Fluoranthene-d10	0.0156		"	0.0333		46.7	40-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/18/22 09:33

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference